IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:)	Examiner: Unknown
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Abe)	Group Art Unit: Unknown
)	
Serial No.: 10/652,640)	Docket No. ABE1P003
)	
Filed: 08/28/2003)	Date: December 3, 2003
)	
For: A METHOD FOR SIMULATING)	
AN OPTIMIZED SUPPLIER)	
IN A MARKET)	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

PETITION TO MAKE SPECIAL
37 C.F.R. 1.102 and MPEP § 708.02(VIII)

Sir:

1. Petition -- MPEP § 708.02(VIII)(A):

Applicant hereby petitions to make this new application special. This application has not received any examination by the Examiner.

2. Fee

A check for the petition amount has been included. The Office is authorized to charge any additional fees for this petition to Deposit Account No. 50-1351 (Order No. ABE1P003).

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3. Claims -- MPEP § 708.02(VIII)(B)

All of the claims in this case are directed to a single invention. If the Office determines that all of the claims presented are not directed to a single invention, then applicant will make an election without traverse as a prerequisite to the grant of special status.

4. Searches and Declaration – MPEP § 708.02(VIII)(C)

As the undersigned practitioner, being duly registered to practice before the U.S. Patent and Trademark Office, I declare that a careful and thorough pre-examination search of the prior art has been made.

The classes and subclasses searched include:

705 and all subclasses; and
All classes and subclasses.

The terms used in defining the search include:

"best," "optimal," "optimized," "optimize," "price," "optimal price," "optimized price," "best price," and "demand planning," "elasticity curve," "supply and demand," "price optimization," "supplier and market," "simulate or simulator or simulation,"

The resulting potential references were reviewed for their degree of relevancy to the present invention.

5. Discussion of Related References --MPEP § 708.02(VIII)(D) and (E)

There is submitted herewith a copy of each of the references deemed most closely related to the subject matter of the claimed invention. Also attached is form PTO-1449.

(1)   <u>U.S. Patent Number 5,615,109 by Eder, issued March 25, 1997</u>

This patent is titled "Method of and system for generating feasible, profit maximizing requisition sets" and it teaches:

In a computer based inventory control method and system, feasible profit maximizing sets of requisitions are created. System processing starts with the creation of detailed, multi-dimensional forecasts of sales and cash receipts using stored algorithms and data preferentially extracted from a basic financial system and the adjustment of the forecasts to match the controlling forecast specified by the user. The adjustment of the forecasts is facilitated by the use of a calculated variable that defines the magnitude of the relative adjustment for each forecast element. All forecasts are adjusted to exactly match a controlling forecast which is either a multivalent combination of the previously generated forecasts or the user specified controlling forecast. The adjusted forecast of sales by item is then used in calculating a requisition set that satisfies expected demand while meeting user specified service level targets. A profit maximized requisition set is then created that utilizes vendor and unit of measure substitution under a variety of discount schedules to the extent possible within the user specified constraints. The processing completed by the system to determine the profit maximizing requisition set utilizes multi-objective, mixed-integer, linear programming techniques. A financial forecast is then calculated and displayed to determine if purchasing the profit maximizing requisition set will be feasible under the forecast financial conditions. Once the constraints and/or forecasts are adjusted as required to produce a feasible solution, processing advances to the profit enhancement stage where overall financial constraints are established and user specified constraints on commitment percentages, global unit of measure substitution and global vendor substitution are optionally relaxed and profit enhancing changes are calculated, stored and displayed. The user optionally accepts displayed enhancements and the financial forecast is recalculated to demonstrate the

impact of the accepted changes before the requisitions are modified to reflect the accepted enhancements.

The reference is thus oriented toward inventory optimization to achieve profit, not the optimization of price to further business objectives, or the simulation of an optimized as well as non-optimized supplier in a market. Thus, the reference fails to discuss a method for "simulating an optimal price," "an optimal price simulator system," and "a computer program product for optimizing an optimal price," as independently claimed, or as claimed by applicant in various dependent claims.

For example, the reference fails to disclose, teach or suggest a method of "receiving a plurality of prices of sets of one or more prices," "used to generate a distribution of prices associated with at least one non-optimized supplier," a method of receiving a plurality of prices that are used in "calculating an optimal price associated with an optimized supplier," "utilizing an optimal price generator," a method wherein the "optimal price is further generated by calculating the optimal price based on the prices, number of competitors, business objective, and cost associated with the good or service," a method wherein the "business objective is selected from the group consisting of maximizing revenue for a good or service, maximizing gross profit for the good or service, maximizing factory utilization for the good or service, maximizing market share for the good or service, and maximizing earnings before income tax (EBIT) for the good or service," and a method of continually "updating the optimal price generator based on the results." In addition, the reference uses historical data from a financial system to create a forecast, which is significantly different and less accurate than the following claimed approach which receives a "plurality of sets of one or more prices" to calculate an optimal price, where the optimal price is "further generated by calculating the optimal price based on the prices, number of competitors, business objectives, and cost associated with the good or service."

(2)   U.S. Patent Number 5,459,656 by Fields, issued October 17, 1995

This patent is titled "Business demand projection system and method" and it teaches:

A business demand based control system and method stores past business demand data during past time intervals for use with other data to compute business demands in such manner that the past business demand data is used to project the business demands in current and near-future time intervals. The system measures and stores the business demand data for a plurality of time intervals and a plurality of products or tasks, and projects the business demand for a plurality of products or tasks for near-future time intervals using percentage based demand curves. The system allows the creation of a number of demand curves for the items to determine near future demand, using defined functions and variables. Business demand projections for current and near-future time intervals are revised for a plurality of business items in response to variances in actual business demand data in time intervals just prior to the current time interval.

The instant reference fails to disclose, teach, or suggest the claimed "simulating an optimal price," "an optimal price simulator system", or a "computer program product for optimizing an optimal price." See Claims 1, 17, and 18. In addition, the reference does not consider or suggest a method of price optimization that is based on "receiving a plurality of prices associated with a price-frequency mathematical distribution, a number of competitors, a business objective, and a cost associated with a good or service; and calculating the optimal price based on the prices, number of competitors, business objective, and cost associated with the good or services," as claimed by applicant. See Claim 2, 10, and 11. Also not discussed in the reference is the simulation of pricing from a competitor, as claimed by applicant. See Claims 6, 7, and 12. What is discussed in the reference is a method of predicting demand for a product given the historical demand.

(3) U.S. Patent Number 6,553,352 by Delurgio, issued April 22, 2003

This patent is titled "Interface for merchandise price optimization" and it teaches:

An apparatus and method are provided for an interface enabling a user to determine optimum prices of products for sale. The interface includes a scenario/results processor that enables the user to prescribe an optimization

scenario, and that presents the optimum prices to the user. The optimum prices are determined by execution of the optimization scenario, where the optimum prices are determined based upon estimated product demand and calculated activity based costs. The scenario/results processor has an input/output processor and a scenario controller. The input/output processor acquires data corresponding to the optimization scenario from the user, and distributes optimization results to the user. The scenario controller is coupled to the input/output processor. The scenario controller controls acquisition of the data and the distribution of the optimization results in accordance with a price optimization procedure.

The reference fails to teach, describe, or disclose a "method for simulating an optimized supplier in a market," as claimed. See Claims 1, 17, and 18. The reference, instead, discloses a method and apparatus that consists of "[a]n interface enabling a user to determine optimum prices of products for sale...".

The reference fails to make disclose anything regarding the simulation of the behavior of an optimized supplier in a market consisting of at least one non-optimized supplier, as claimed by applicant. See Claims 7 through 13.

The reference further fails to articulate whether the results of the price optimization are used in any sort of reaction (i.e. to determine future optimization, etc.) as claimed by applicant in Claim 14. It is thus clear that no type of results is identified based on a generated optimal price, and reacted to in any way, as claimed.

Additionally, the reference indicates usage of Bayesian Shrinkage to determine product demand, which is a substantially different methodology than the more accurate method claimed by applicant of receiving a plurality of prices used to calculate a distribution, calculating an optimal price, and further generating the optimal price based on the number of competitors, business objectives, and associated costs. See Claims 2, 6, 7, 8, and 10. The Bayesian Shrinkage methodology is an inferior approach compared to the one claimed because it requires a substantial amount of data and therefore is a weak solution

for volatile markets where market price may significantly fluctuate in a short period of time resulting in small amounts of data at any given price.

(4)   U.S. Patent Number 6,094,641 by Ouimet, issued July 25, 2000

This patent is titled "Method for incorporating psychological effects into demand models" and it teaches:

A method for incorporating psychological effects into a demand model for pricing. First the original demand model is modified to include a mechanism to convert actual prices into perceived prices, thus causing the demand model to predict higher demand for certain prices. The user specifies the function that converts from real prices to perceived prices. This modified demand function is then fitted to a sales history to yield the parameters appropriate to its particular form. Also, the demand model can be modified to account for promotional effects. The user defines a visibility model, which gives the relative increase in demand for an item caused by a promotion, and the cost of the promotion. The demand model is modified to include the effect of increased demand based on the visibility, and a profit model is modified to account for the added cost due to the added visibility. The profit model is then optimized with respect to both prices and promotions.

The reference teaches a method of modifying and incorporating psychological effects into a demand curve, such as how a customer perceives the price $9.99 verses $10.00. Although the mathematical difference is only $.01, the psychological difference and its impact on the customer's decision to purchase may be substantially more. The reference teaches a method of incorporating the difference into an existing demand curve that describes the relationship of price and quantity sold.

The reference thus fails to disclose, teach, or suggest a method for "simulating an optimized supplier in a market," as claimed. See Claims 1, 17, and 18. The reference fails to disclose how the performance of an optimized supplier compares to that of a non-optimized supplier," as disclosed in Claims 12 and 13.

In fact, the reference does not discuss the likely behavior of a non-optimized supplier in any way as is disclosed in Claims 2, 3, 6, 7, and 12.

The implications associated with the above reference are that an optimal price is calculated, the product priced, and no further action taken based on the financial, operational, or market results. The impact of the reference not using feedback is a significantly less accurate determination of optimal price. Thus, the present reference lacks the claimed "updating the optimal price generator based on the results," as described in Claim 14.

The reference specifically states "a computer-implemented method for incorporating at least one psychological effect into a demand model comprising the steps of: providing a data storage having past sales data..." Through the explicit omission of anything to the contrary, is the reference teaches the use of historical sales data to formulate the demand curve, a standard industry approach. The implicit approach of the reference is in stark contrast to Claim 2, 8, 9, 10, and 11 of the present patent application that requires, the optimal price is generated by receiving a plurality of prices associated with a distribution of prices, a number of competitors, a business objective, and a cost associated with a good or service; and calculating the optimal price based on the prices, number of competitors, business objective, and cost associated with the good or service. The use of a "price-distribution" in the present patent application is advantageous because it eliminates the dependency on historical sales data in the determination of product or service demand which is recognized to have four significant challenges; first, there may be an absence of historical sales data as in the case of a new product; second, the sales data may be insufficient in quantity for statistical significance to form a reliable demand curve; third, sales data may be too dated to be reflective in the current market and therefore result in an inaccurate demand curve; fourth, the sales data may lack diversity in prices and therefore is not meaningful in forming a demand curve. The use of a "price-distribution," as indicated in Claim 9 of the present patent application eliminates the common problem of the lack of statistical significance of the sales data, the reliance on old or dated sales data, and the absence of diversity in pricing associated with the sales data.

Further not mentioned in the reference is the influence of the number of competitors on the formation of the demand curve. The reference's omission is significant because in highly competitive markets, the numbers of competitors frequently change particularly in difficult economic times. The consequence of a change in the number of competitors is a potential impact to supply of goods and services, which in turn influences the demand for the product. Claim 9 and 10 of the present patent application specifically teaches a method that uses the number of competitors which results in a significantly more accurate determination of optimal price.

Finally, the reference fails to discuss a method for "simulating an optimal price," "an optimal price simulator system," and "a computer program product for optimizing an optimal price," as independently claimed.

(5)   U.S. Patent Number 6,078,893 by Ouimet, issued June 20, 2000

This patent is titled "Method for stabilized tuning of demand models" and it teaches:

A method for tuning a demand model in manner that is stable with respect to fluctuations in the sales history used for the tuning is provided. A market model is selected, which predicts how a subset of the parameters in the demand model depends upon information external to the sales history; this model may itself have a number of parameters. An effective figure-of-merit function is defined, consisting of a standard figure-of-merit function based upon the demand model and the sales history, plus a function that attains a minimum value when the parameters of the demand model are closest to the predictions of the market model. This effective figure-of-merit function is minimized with respect to the demand model and market model parameters. The resulting demand model parameters conform to the portions of the sales history data that show a strong trend, and conform to the external market information when the corresponding portions of the sales history data show noise.

The reference discloses "[a] computer-implemented method for tuning a demand model to a sales history that is stable with respect to random fluctuations

in said sales history." The reference does not teach "a method for simulating an optimal price," "an optimal price simulator system," and "a computer program product for optimizing an optimal price," as stated in Claim 1, 17, and 18 (and the remaining dependent claims) of the present patent application. The reference simply does not contain an implicit or explicit reference to "simulation" of a supplier, optimized or otherwise, in any of its claims.

The reference further fails to disclose, teach, or suggest the more accurate method for determining the demand for a product at various prices based on receiving a plurality of prices associated with a price-distribution as described in Claims 2, 8, and 9 of the present patent application. The reference does not make mention, or draw any relationship to the "number of competitors," as stated in Claim 10 of the present patent application.

(6)   <u>U.S. Patent Number *5,377,095* by Maeda, issued December 27, 1994</u>

This patent is titled "Merchandise analysis system with sales data table and various functions for predicting the sale by item" and it teaches:

A merchandise analysis system for predicting the sale of a registered item, including: a sales data table having sales data of a plurality of items; an input terminal for registering an item and for setting an analysis term; a retrieval unit connected to the table and the input terminal to search the sales data table for the sales data corresponding to the registered item and the analysis term; a function table having various functions fitted to respective data of sale versus price; a dispersion measure table for storing errors obtained with respect to the respective data of sale versus price retrieved on the basis of the respective functions; an analysis device connected to the dispersion measure table so as to determine one function giving the minimum one of the errors and the values of parameters therefore; and a display connected to the dispersion measure table so as to display the sales data of the registered item corresponding to the analysis term in a graph expressing the determined one function into which the determined parameters are substituted, the display being arranged to display the predicted

sale corresponding to the registered price inputted through the input terminal in accordance with the display of the sales data.

The reference discloses "[a] merchandise analysis system for predicting the sale of a registered item." Specifically, the reference describes a method and system where a product's sales data verses price is stored, an error table that stores the difference between the predicted sales verses price and the actual values of sales verses price, and a function that minimizes the said error. The reference further discusses "a price change table means for judging one among three patterns of "upward tendency", "downward tendency" and "constant tendency..." which is used to adjust the price in a predetermine increment.

The reference makes no reference regarding the simulation of an optimized or non-optimized supplier in a market, as claimed by applicant. In particular, the reference does not describe a method for "simulating an optimal price," "an optimal price simulator system," and "a computer program product for optimizing an optimal price," as claimed by applicant in Claims 1, 17, and 18.

The present patent application describes a substantially more accurate method of determining optimal price than the less accurate industry standard method of using historical sales data as disclosed in the reference. Claims 2, 8, 9, 10, and 11 of the present patent application, for example, describes a significantly more accurate method of determining optimal price than the industry "wherein the optimal price is generated by receiving a plurality of prices associated with a price frequency mathematical distribution, a number of competitors, a business objective, and a cost associated with a good or service; and calculating the optimal price based on the prices, number of competitors, business objectives, and the cost associated with the good or service." The reference fails to identify a "price frequency mathematical distribution" of prices depicting the prices a market survey would yield as described in Claim 2 of the present patent application.

Finally, the reference makes no explicit or implicit indication of its use of a "frequency distribution engine," a "probability of win engine," "expected results

engine," and an "optimization update engine," as described in Claim 15 of the present patent application.

(7)   <u>U.S. Patent Number 6,078,893 by Ouimet, issued June 20, 2000</u>

This patent is titled "Method for stabilized tuning of demand models" and teaches:

A method for tuning a demand model in manner that is stable with respect to fluctuations in the sales history used for the tuning is provided. A market model is selected, which predicts how a subset of the parameters in the demand model depends upon information external to the sales history; this model may itself have a number of parameters. An effective figure-of-merit function is defined, consisting of a standard figure-of-merit function based upon the demand model and the sales history, plus a function that attains a minimum value when the parameters of the demand model are closest to the predictions of the market model. This effective figure-of-merit function is minimized with respect to the demand model and market model parameters. The resulting demand model parameters conform to the portions of the sales history data that show a strong trend, and conform to the external market information when the corresponding portions of the sales history data show noise.

The reference does not disclose, teach, or suggest a method for "simulating an optimal price," "an optimal price simulator system," or "a computer program product for optimizing an optimal price," as disclosed by applicant in Claims 1, 17, and 18.

Further, the reference does not disclose the significantly more accurate method referenced in the present patent application for "updating the optimal price generator based on the results." The reference also makes no specific mention of "updating" or "results" in the course of generating an optimal price, as claimed in the present patent application. See Claim 14.

The reference teaches a "computer-implemented method for tuning a demand model to a sales history that is stable with respect to random fluctuations in said sales history." The reference further teaches how the standard industry

method of determining a product's demand can be improved on through the introduction of a method for determining a figure of merit based on the variance associated with the sales data.

The method for determining demand disclosed in the above reference uses sales order data to form a demand curve. In sharp contrast, the present patent application claims a different approach that employs a "price frequency mathematical distribution" in estimating the demand of a product or service (refer to Claim 9 of the present patent application). The use of a "price frequency mathematical distribution" along with the incorporation of the "number of competitors" (refer again to Claim 9 and 10 of present patent application) results in a significantly more accurate determination of optimal price. The methodology claimed in the present patent application overcomes mathematical, practical, and accuracy issues associated with the prior art reference. These issues are the potential absence of sales data as in the case of a new product, lack of statistical significance of the sales data preventing the determination of a mathematically meaningful demand, an inaccurate determination of demand due to use of old or untimely sales data, the incorrect determination of demand based on the absence of the lack of market relevance of old or untimely sales data, and the incomplete representation of demand based on the span of prices contained in the sales data.

(8)   U.S. Patent Number *5,822,736* by Hartman, issued October 13, 1998

The title of this patent is "Variable margin pricing system" and it teaches:

A variable margin pricing system and method that generates retail prices based on customer price sensitivity. Products are grouped into pools from a first pool for most price sensitive products to a last pool for least price sensitive products. A logical relationship between margins and the customer price sensitivity is determined for the products. Based on this logical relationship and each product's pool assignment, the system and method calculate each product's margin and corresponding retail price. The method is also used to generate retail price labels having retail prices based on customer price sensitivity for the products to which the labels are to be affixed or located proximate.

The reference fails to disclose, teach, or suggest a computer-implemented method utilizing "a method for simulating an optimal price," as described in Claim 1 of the present patent application. The reference does not discuss or suggest any price optimization with respect to business objectives such as those described in Claim 11 of the present patent application; "wherein the business objective is selected from the group consisting of maximizing revenue for a good or service, maximizing gross profit for the good or service, maximizing factory utilization for the good or service, maximizing market share for the good or service, and maximizing earnings before income tax (EBIT) for the good or service."

Instead, the present reference discloses a method for the assignment of retail pricing based on the organization of product group by customer sensitivity. However, this should not be construed as the "optimization" of price based on specific organization objectives, which is not merely a problem of assigning price, but a problem of how price is used to achieve certain enterprise objectives. The reference does not discuss the "updating the optimal price generator based on the results," as claimed in the present patent application (refer to Claim 14).

The instant reference is void of any discussion regarding the determination of demand for a particular good or service. While the reference does discuss the organization of products based on customer sensitivity to price, this should not be equated with a mathematical relationship that links the number of units sold to price. As a consequence, the reference fails to meet Claims 2, 8, 9, 10, and 11 of the present patent application that generates an optimal price by "receiving a plurality of prices associated with a price frequency mathematical distribution, a number of competitors, a business objective, and a cost associated with a good or service..."

Finally, the reference does not teach, disclose, or suggest "an optimal price simulator system," or a "computer program product for optimizing an optimal price" as disclosed in independent Claims 17 and 18 of applicant.

(9)   U.S. Patent Number *5,878,400* by Carter, III, issued March 2, 1999

This patent is titled "Method and apparatus for pricing products in multi-level product and organizational groups" and teaches:

The invention organizes various pricing tables and price adjustment tables and various products and purchasing organizations based on "who" (i.e. which purchasing organization) is purchasing "what" (i.e. which product). The invention utilizes a denormalized table to relate the "who" to the "what" using denormalized numbers. The invention further organizes various purchasing organizations and products into hierarchical tables. These hierarchical tables are called organizational groups and product groups. Various price adjustments may be specified for each level of the organizational groups and product groups hierarchies. The price adjustments for a particular purchasing organization are determined by retrieving the price adjustments for that particular purchasing organization as well as the price adjustments for organizational groups above the particular purchasing organization in the organizational groups hierarchy. Likewise, the price adjustments for a particular product are determined by retrieving the price adjustments for that particular product as well as the price adjustments for product groups above the particular product in the product groups hierarchy. The invention sorts the various pricing adjustments applicable to a particular product offered to a particular purchasing group based on several criteria. After the sorting is accomplished the pricing adjustments are applied in sequence to arrive at a final price at which a particular product can be sold to a particular purchasing organization.

The reference fails to disclose, teach, or suggest a method for "simulating an optimal price." See Claim 1. Instead, the reference discloses a method of making pricing adjustments based on the position with an organization hierarchy of the customer. Even in view of the broadest interpretation of applicant's claims, this should not be equated with "simulating an optimal price" to achieve a result consisting of one or more specific organizational objectives as stated in Claim 10 of the present patent application. The reference further does not define a "business objective," as set forth in Claim 11. The reference further does not include any discussion regarding the optimization of price based on "updating the optimal price

generator based on the results," as is set forth in Claim 14 of the present patent application.

Still yet ,the reference does not teach, disclose, or suggest "an optimal price simulator," or "a computer program product for optimizing an optimal price," as disclosed in Claims 17 and 18 by applicant. The reference does not contain any reference to simulating either a non-optimized or optimized supplier.

(10)   U.S. Patent Number *5,918,209* by Campbell, issued June 29, 1999

This patent is titled "Method and system for determining marginal values for use in a revenue management system" and teaches:

A method and system for determining marginal values for perishable resources expiring at a future time, for example, an airline seat, hotel room night, rental car day or the like, for use in a perishable resource revenue management system. Data for the perishable resources and composite resources is loaded from the perishable resource revenue management system into the marginal value system. Internal data structures are constructed for linking each of the perishable resources to their associated composite resources and for linking each of the composite resources to their associated perishable resources. The marginal values for the perishable resources are determined using a continuous optimization function using interdependencies among the perishable resources and the composite resources in the internal data structures. The marginal values are stored from the marginal value system into the perishable resource revenue management system.

The instant reference discloses a methodology to determine the marginal value perishable resource such as an airline seat. The reference's focuses on perishable resources and a methodology to determine the marginal value on each leg of a multi-leg itinerary, then a global marginal value for the entire itinerary that fits certain criteria is determined, which demonstrates the narrowness of its applicability to the general problem of price optimization.

The reference does not, however, describe a method for "simulating an optimal price" as described in Claim 1 and the dependent claims of applicant. The reference further does not teach, discuss, or suggest the use of simulation in predicting the

behavior of non-optimized supplier(s). For example, only applicant teaches and claims "receiving a plurality of prices associated with a price-frequency mathematical distribution, a number of competitors, a business objective, and a cost associated with a good or service." See Claims 9 through 11. Aside from the use of the term "marginal value" throughout the reference, which is implicitly construed to equate to revenue based on the title of the reference, "[m]ethod and system for determining marginal values for use in a revenue management system", it is not evident that the method is designed to optimize gross profit, earnings before income tax (EBIT), factory utilization, market share, for the good or service as disclosed in Claim 11 of the present patent application.

Moreover, the reference does not define how the "number of competitors" affect the purchase decision as required in Claim 10 of the present patent application. The reference discloses the use of a value for supply and demand, but the reference is vague on what constitutes these values and whether these values reflect metrics for that specific provider of perishable resources, or the industry at large. Without clarity on these points, it is difficult and potentially impossible to calculate their influence on a customer's purchase decision.

(11)   U.S. Patent Number *5,987,425* by Hartman, issued November 16, 1999

This patent is titled "Variable margin pricing system" and teaches:

A variable margin pricing system and method that generates retail prices based on customer price sensitivity. Products are grouped into pools from a first pool for most price sensitive products to a last pool for least price sensitive products. A logical relationship between margins and the customer price sensitivity is determined for the products. Based on this logical relationship and each product's pool assignment, the system and method calculate each product's margin and corresponding retail price. The method is also used to generate retail price labels having retail prices based on customer price sensitivity for the products to which the labels are to be affixed or located proximate.

The reference discloses "[a] method implemented by a computer and associated printer for preparing retail price labels…" Furthermore, the reference discloses a

method of determining the price visually depicted on the labels based on a previously analyzed patent (see item 8 of this section). For the convenience of the Examiner, the analysis of item 8 is incorporate herein by reference.

The reference is void of any discussion regarding the determination of demand for a particular good or service. While the reference does discuss the organization of products based on customer sensitivity to price, this should not be equated with a mathematical relationship that links the number of units sold to price. As a consequence, the reference fails to meet Claims 2, 8, 9, 10 and 11 of the present patent application that generates an optimal price by "receiving a plurality of prices associated with a price-frequency mathematical distribution, a number of competitors, a business objective, and a cost associated with a good or service..." More importantly, the present reference does not disclose, teach, or suggest any sort of optimal price simulation, as independently claimed by applicant.

(12)   U.S. Patent Number *6,029,139* by Cunningham, issued February 22, 2000

This patent is titled "Method and apparatus for optimizing promotional sale of products based upon historical data" and teaches:

A system for optimizing the promotional sale of a product, a product segment, or a category which may take into account related products or competing products comprising means for generating a three-dimensional data structure corresponding to the sales history for a product, the data structure dimensions corresponding to an event type domain, a time domain, and a unit of measurement domain, means for populating the three-dimensional data structure, a neural network, means for training the neural network and means for applying sales objectives and constraints to the neural network.

The reference fails to disclose, teach, or suggest "simulating an optimal price," "an optimal price simulator system," and "a computer program product for optimizing an optimal price," as claimed by applicant. The reference does not contemplate the behavior of a competing supplier, whether in terms of optimization of a price or its impact on the supplier applying optimization, as claimed by applicant. In fact, the reference contains no mention of competition or another supplier. The reference

further does not describe any mechanism through which results as defined in Claims 14 are used to influence the determination of future optimal prices.

In sharp contrast, the reference describes how sales history is used to determine the promotional sale of a product. Methods using sales history to determine optimal price are less accurate in determining demand for a product or service than the method described in Claims 2, 8, 9, 10 and 11 of the present patent application, where the optimal price is determined through the use of a plurality of prices associated with a "price-frequency mathematical distribution."

(13)   U.S. Patent Number *6,308,162* by Ouimet, issued October 23, 2001

This patent is titled "Method for controlled optimization of enterprise planning models" and teaches:

A computer-implemented method and system for controlled optimization of enterprise planning models is provided. This is accomplished by first defining an auxiliary objective function, which depends on the same variables as the model, or a subset thereof. An effective objective function is then constructed from the primary objective function by subtracting the auxiliary objective function multiplied by a weighting factor. The effective objective function is then optimized for a whole range of weighting values, yielding a table that describes how the primary objective function varies according to different values of the weighting factor. Optimization of the effective objective function with a given value of the weighting factor results in a particular value for the auxiliary objective. Thus, this computed table essentially provides a relationship between different realized values of the primary objective, the auxiliary objective, and all the variables of the enterprise planning model. The user is further provided with a way to specify a target value for the auxiliary objective to attain, and then use the table obtained previously to interpolate the value for the weighting factor that corresponds to the target value. This interpolated value for the weighting factor is then inserted into the effective objective function. This effective objective function is optimized, yielding the set of decisions which optimize the primary objective function while at the same time satisfying the constraint that auxiliary objective achieve a target value.

The reference discloses "[a] computer-implemented method for controlling the optimization of an enterprise planning model while simultaneously satisfying at least one strategic constraint not taken into account in said enterprise planning model..." The reference makes no mention of "a method for simulating an optimal price," as required in Claim 1 of the present patent application. The reference also does not teach "an optimal price simulator system," and "a computer program product for optimizing an optimal price" as required in Claims 17 and 18.

The reference further does not discuss the method of determining the "optimal price generated by receiving a plurality of prices associated with a price-frequency mathematical distribution" as described in Claims 2, 8, 9, 10 and 11 of the present patent application. The reference still further does not refer to any method that could be construed as an equivalent to the "price frequency mathematical distribution" method described in the present patent application.

The reference does not describe, discuss, or mention how the number of competitors influences the probability of a customer purchase, as discussed in Claim 10 of the present patent application.

Still yet, the reference does not discuss how the specific results thereof are used in a feedback mechanism to determine future optimal prices as described in Claim 14 of the present patent application.

Finally, the reference does not describe a method of weighting results described in Claim 11, should two or more results be selected as the basis of optimizing price. As a consequence, the claims of the present patent application are not met by the instant reference.
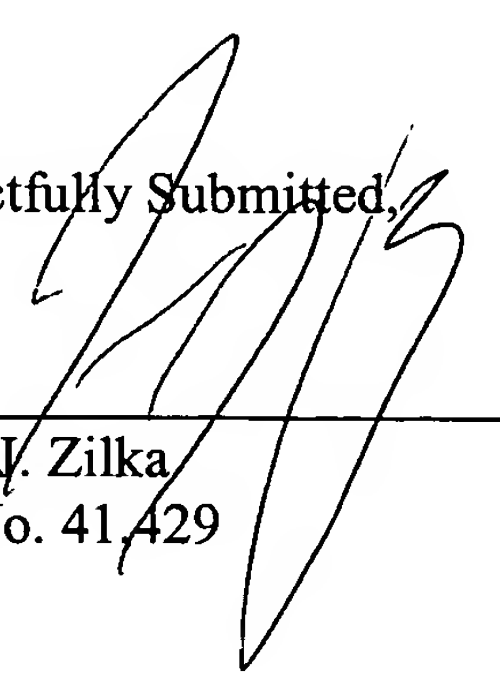
6. Conclusion

Applicant believes that this Petition to Make Special has met all requirements set forth by 3 7 C.F.R. 1.102 and MPEP § 708. 02(VIII), and respectfully requests that this Petition to Make Special be granted.

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Respectfully Submitted,

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